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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/711,547	11/13/2000	Peter Fischer	DT-3645	8041

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EXAMINER

KAO, CHIH CHENG G

ART UNIT PAPER NUMBER

2882

DATE MAILED: 04/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/711,547

Applicant(s)

FISCHER, PETER

Examiner

Chih-Cheng Glen Kao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5 and 7-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5 and 7-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 08 April 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 3, 4, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (US Patent 4,470,873) in view of Yoshikawa (JP 11-273520), Bruch (US Patent 4,831,484), Kordulla et al. (US Patent 4700065), Tani et al. (US Patent 4620094), and Clark (US Patent 4103155).

2. Regarding claim 1, Nakamura shows a scanning device comprising: a magnetoresistive probe, an electronic module, and conductor strips (Title, Figs. 24-26, and col. 1, lines 1-15).

However, Nakamura does not seem to specifically disclose housing with part of a probe outside the housing, a fuse of lower melting point that interrupts current at a specific temperature, and a sectional constriction, and parts of electrical connections extending outside housing.

Bruch teaches the fuse of lower melting point that interrupts current at a specific temperature (Fig. 1, #8). Kordulla et al. teaches housing (Fig. 1, #14 and 16). Tani et al teaches part of a probe outside the housing (Fig. 4, #6 in relation to #2). Yoshikawa teaches the sectional

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constriction (Title, Abstract, and Figs. 1-4, 6, and 7). Clark teaches parts of electrical connections extending outside housing (Fig. 3, #26).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the housing of Kordulla et al. with part of a probe outside the housing of Tani et al., the fuse of Bruch, sectional constriction of Yoshikawa, and electrical connections outside housing of Clark with the device of Nakamura, which is explained with motivation as follows.

One would be motivated to have the fuse as part of a safety barrier in explosive atmospheres as shown by Nakamura (col. 1, lines 1-15).

One would be motivated to have housing to hold the components in place as seen in Figure 1 of Kordulla et al.

One would be motivated to have part of the probe outside the housing in order to send (Fig. 4, #6) and receive (Fig. 4, #51) light signals to the disk (Fig. 4, #1) as shown by Tani et al.

One would be motivated to have electrical connections outside housing to provide power from a external power source as implied by Clark (Fig. 1). This would make replacement of the power source easier, if the power source should fail.

It would have been obvious to have the sectional constriction of Yoshikawa, since the fuse of Yoshikawa and the fuse of Bruch are considered functionally equivalent in that they both melt when it reaches a certain temperature. One would be motivated to use the fuse of Yoshikawa to create a current and thermal fuse function in one electronic element to reduce components as implied from Yoshikawa (Abstract).

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3. Regarding claim 3, Nakamura in view of Yoshikawa, Bruch, Kordulla et al., Tani et al., and Clark suggests a device as recited above.

However, Nakamura does not specifically disclose a fuse with electrical connections having an electrically conductive material of at least one of lower melting point and higher specific resistance.

Yoshikawa further teaches a fuse with electrical connections having an electrically conductive material of at least one of lower melting point and higher specific resistance.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the fuse of Yoshikawa with the suggested device of Nakamura in view of Yoshikawa, Bruch, Kordulla et al., Tani et al., and Clark, since the fuse of Yoshikawa and the fuse of Bruch are considered functionally equivalent in that they both melt when it reaches a certain temperature. One would be motivated to use the fuse of Yoshikawa to create a current and thermal fuse function in one electronic element to reduce components as implied from Yoshikawa (Abstract).

4. Regarding claim 4, Nakamura in view of Yoshikawa, Bruch, Kordulla et al., Tani et al., and Clark suggests a device as recited above.

However, Nakamura does not seem to specifically disclose a fuse between the probe and electronic module.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have a fuse between the probe and electronic module with the suggested device of Nakamura in view of Yoshikawa, Bruch, Kordulla et al., Tani et al., and Clark since it

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would have just involved routine skill in the art to rearrange fuses in an electrical circuit.

Thermal fuses are considered conventional in the art and can be placed anywhere for protection of components. One would be motivated to place a fuse between the electronic module and probe to create a safety barrier between the two.

5. With regards to claims 8 and 9, Nakamura further discloses a magnetoresistive probe, which uses a magnetic principle of measurement (Figs. 24-26).

6. Claims 5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of Yoshikawa, Bruch, Kordulla et al., Tani et al., and Clark as applied to claim 1 above, and further in view of Ernst (US Patent 4,369,578).

7. Regarding claim 5, Nakamura in view of Yoshikawa, Bruch, Kordulla et al., Tani et al., and Clark suggest a device as recited above.

However, Nakamura does not seem to specifically disclose a fuse for each electrical connection extending outside the housing.

Ernst teaches housing (Fig. 2, #10).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have electrical connections extending outside the housing with the suggested device of Nakamura in view of Yoshikawa, Bruch, Kordulla et al., Tani et al., and Clark, which is explained with motivation as follows. Kordulla et al., Tani et al., and Clark show one type of housing as recited above. Ernst shows another type of housing (Fig. 2, #10).

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Housing is considered conventional in the art for protection components. It would have only involved routine skill in the art to rearrange to housing to protect certain components. One would be motivated to have housing with connections extending outside in order to have housing for extra protection around the fuse and electronic module.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have a few at each connection of Nakamura in view of Yoshikawa, Bruch, Kordulla et al., Tani et al., and Clark, since mere duplication of essential working parts of a device involves only routine skill in the art. One would be motivated to have fuses everywhere to protect everything.

8. Regarding claim 7, Nakamura in view of Yoshikawa, Bruch, Kordulla et al., Tani et al., and Clark suggest a device as recited above.

However, Nakamura does not seem to specifically disclose aluminum housing.

Ernst teaches aluminum housing (col. 2, lines 1-6).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the aluminum housing of Ernst with the suggested device of Nakamura in view of Yoshikawa, Bruch, Kordulla et al., Tani et al., and Clark since one would be motivated to use it for protection against mechanical damage as shown by Ernst (col. 2, lines 1-6). Secondly, it would have been within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use.

Response to Arguments

9. Applicant's arguments with respect to claims 1, 3-5, and 7-9 have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's arguments filed 2/6/03, have been fully considered but they are not persuasive.

Regarding Bruch, Bruch discloses a fuse (col. 3, lines 46-47). The disconnection limits current (col. 3, lines 50-51, and Fig. 1)

Regarding Yoshikawa, fuses are conventional. Substituting the fuse of Yoshikawa to replace another still would have involved routine skill in the art. Integrating or putting a fuse into a circuit would also have only involved routine skill in the art.

Further, the claims do not specifically recite the fuse placed between the electronic module and probe.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

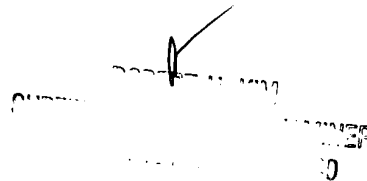
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (703) 605-5298. The examiner can normally be reached on M - Th (8 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



gk
April 10, 2003



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